

## **REMARKS/ARGUMENTS**

Claims 1-21 are pending in the present application. Claims 11-21 are canceled; claim 1 is amended; and claim 22 is added. Support for the claim amendments can be found on pages 16-17 of the specification. Support for new claim 22 can be found on page 20, paragraph 2 of the specification. Reconsideration of the claims is respectfully requested.

In this Amendment, Applicant has canceled claims 11-21 from further consideration in this application. Applicant is not conceding that the subject matter encompassed by claims 11-21, prior to this Amendment is not patentable over the art cited by the Examiner. Claims 11-21 were canceled in this Amendment solely to facilitate expeditious prosecution of the allowable subject matter noted by the Examiner. Applicant respectfully reserves the right to pursue claims, including the subject matter encompassed by claims 11-21, as presented prior to this Amendment, and additional claims in one or more continuing applications.

### **I. 35 U.S.C. § 102, Anticipation**

The Examiner has rejected claims 1-21 under 35 U.S.C. § 102 as being anticipated by *Armstrong et al.* (U.S. Patent No. 6,467,007) (hereinafter “*Armstrong*”). This rejection is respectfully traversed.

Claim 1 is representative of the rejected claims. Claim 1, as amended, is as follows:

1. A method for managing shared resources in a logical partitioned data processing system, the method comprising:
  - granting, by a server partition in the logical partitioned data processing system, a logical resource owned by the server partition to a client partition in the logical partitioned data processing system;
  - communicating an identifier from the server partition to the client partition; and
  - responsive to the client partition accepting the identifier, mapping the logical resource into a logical address space of the client partition, wherein the mapping is performed by the client partition.

With regard to claim 1, the Examiner states the following:

As per claims 1, 11, 21, *Armstrong et al.* teach  
a method for managing shared resources in a logical partitioned data processing system - fig. 1: data processing apparatus; fig. 2: logical partitions with partition manager for shared services; col. 1, lines 43-67; col. 5, lines 9-41.  
granting, by a server partition in the logical partitioned data processing system, a logical resource to a client partition in the logical partitioned data processing system - fig. 2, the primary partition (A) is the server partition, the secondary partition (B)/(C) is the client partition; col. 5, lines 23-65.

communicating an identifier from the server partition to the client partition; and responsive to the client partition accepting the identifier, mapping, the logical resource into a logical address space of the client partition, wherein the mapping is performed by the client partition - col. 1, line 52-67 (a partition manager or hypervisor manages the logical partitions and facilitates the allocation of resources to different logical partitions .... maintains separate virtual memory address spaces for the various logical partitions so that the memory utilized by each logical partitions is fully independent of the other logical partitions. One or more address translation tables are typically used by a partition manager to map addresses from each virtual address space to different addresses in the physical, or real, address space of the computer...so that the shared memory can be accessed directly by the logical partition. Examiner interprets that the Address Translation Tables store IDs that the clients can use to access resources across partitions); col. 5, lines 23-65 (each logical partition 40-44 executes in a separate memory space, represented by virtual memory 60. Moreover each logical partition is statically and/or dynamically allocated a portion of the available resources in computer 10... Resources can be allocated in a number of manners...); col. 7, line 66 to col. 8, line 36.

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A prior art reference anticipates the claimed invention under 35 U.S.C. § 102 only if every element of a claimed invention is identically shown in that single reference, arranged as they are in the claims. *In re Bond*, 910 F.2d 831, 832, 15 U.S.P.Q.2d 1566, 1567 (Fed. Cir. 1990). All limitations of the claimed invention must be considered when determining patentability. *In re Lowry*, 32 F.3d 1579, 1582, 32 U.S.P.Q.2d 1031, 1034 (Fed. Cir. 1994). Anticipation focuses on whether a claim reads on the product or process a prior art reference discloses, not on what the reference broadly teaches. *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 218 U.S.P.Q. 781 (Fed. Cir. 1983). In this case, each and every feature of the presently claimed invention is not identically shown in the cited reference, arranged as they are in the claims.

**IA. Armstrong fails to teach “granting... a logical resource”**

Specifically, *Armstrong* does not anticipate claim 1, because, contrary to the Examiner’s assertion, *Armstrong* does not teach the claim 1 feature of “*granting*, by a server partition in the logical partitioned data processing system, *a logical resource* to a client partition in the logical partitioned data processing system.” In attempt to anticipate this feature, the Examiner cites the following section from *Armstrong*:

Each logical partition 40-44 executes in a separate memory space, represented by virtual memory 60. Moreover, each logical partition 40-44 is statically and/or dynamically allocated a portion of the available resources in computer 10. For example, each logical partition is allocated one or more

processors 12, as well as a portion of the available memory space for use in virtual memory 60. Logical partitions can share specific hardware resources such as processors, such that a given processor is utilized by more than one logical partition. In the alternative hardware resources can be allocated to only one logical partition at a time.

Additional resources, e.g., mass storage, backup storage, user input, network connections, and the like, are typically allocated to one or more logical partitions in a manner well known in the art. Resources can be allocated in a number of manners, e.g., on a bus-by-bus basis, or on a resource-by-resource basis, with multiple logical partitions sharing resources on the same bus. Some resources may even be allocated to multiple logical partitions at a time. FIG. 2 illustrates, for example, three logical buses 62, 64 and 66, with a plurality of resources on bus 62, including a direct access storage device (DASD) 68, a control panel 70, a tape drive 72 and an optical disk drive 74, allocated to primary logical partition 40. Bus 64, on the other hand, may have resources allocated on a resource-by-resource basis, e.g., with local area network (LAN) adaptor 76, optical disk drive 78 and DASD 80 allocated to secondary logical partition 42, and LAN adaptors 82 and 84 allocated to secondary logical partition 44. Bus 66 may represent, for example, a bus allocated specifically to logical partition 44, such that all resources on the bus, e.g., DASD's 86 and 88, are allocated to the same logical partition.

It will be appreciated that the illustration of specific resources in FIG. 2 is merely exemplary in nature, and that any combination and arrangement of resources may be allocated to any logical partition in the alternative. Moreover, it will be appreciated that in some implementations resources can be reallocated on a dynamic basis to service the needs of other logical partitions. Furthermore, it will be appreciated that resources may also be represented in terms of the input/output processors (IOP's) used to interface the computer with the specific hardware devices.

*Armstrong*, col. 5, ll. 25-63.

The cited passage of *Armstrong* teaches that *physical* resources can be shared among various *logical* partitions. The sharing of a *physical* resource among various *logical* partitions is not new. *Armstrong* specifically states as much in the cited passage, stating that:

Logical partitions can share specific hardware resources such as processors, such that a given processor is utilized by more than one logical partition. In the alternative hardware resources can be allocated to only one logical partition at a time.

Additional resources, e.g., mass storage, backup storage, user input, network connections, and the like, are typically allocated to one or more logical partitions in a manner well known in the art.

*Armstrong*, col. 5, ll. 30-38.

Contrary to the cited passage of *Armstrong*, the Applicants are not claiming the sharing of *physical* resources among various *logical* partitions. Rather, Applicants' claim 1 is sharing *logical* resources among various *logical* partitions. The *logical* resource of claim 1 is a *logical* resource allocated

to the server partition. The use the *logical* resource is granted by the server partition to the client partition, such that both the server partition and the client partition have access to the *logical* resource.

Because *Armstrong* does not teach this feature of claim 1, *Armstrong* does not anticipate claim 1 under 35 U.S.C. § 102. Withdrawal of the rejection is therefore respectfully requested.

Remaining claims 2-10 depend from claim 1. Therefore, the arguments presented above with respect to the patentability of claim 1 over *Armstrong* also apply to claims 2-10. Therefore, by virtue of reasons analogous to those presented above, the rejection of claims 2-10 under 35 U.S.C. § 102 has been overcome.

**IB. *Armstrong* fails to teach “granting by a server partition... to a client partition”**

Additionally, *Armstrong* does not anticipate claim 1, because, contrary to the Examiner’s assertion, *Armstrong* does not teach the claim 1 feature of “granting, by a server partition in the logical partitioned data processing system, a logical resource to a client partition in the logical partitioned data processing system.” In fact, *Armstrong* directly contradicts this feature of claim 1. As stated in *Armstrong*:

A shared resource, often referred to as a "hypervisor" or partition manager, manages the logical partitions and facilitates the allocation of resources to different logical partitions. As a component of this function, a partition manager maintains separate virtual memory address spaces for the various logical partitions so that the memory utilized by each logical partition is fully independent of the other logical partitions.

*Armstrong*, col. 1, ll. 53-60.

As seen in the cited passage, *Armstrong* teaches that the partition manager is responsible for the allocation, i.e., granting, of resources to the different logical partitions. The allocation of resources by the partition manager to the various logical partitions is not new.

However, claim 1 recites that a logical resource is granted to a client partition from the server partition. *Armstrong* does not disclose the granting of a logical resource by one partition to another partition.

Because *Armstrong* does not teach this feature of claim 1, *Armstrong* does not anticipate claim 1 under 35 U.S.C. § 102. Withdrawal of the rejection is therefore respectfully requested.

Remaining claims 2-10 depend from claim 1. Therefore, the arguments presented above with respect to the patentability of claim 1 over *Armstrong* also apply to claims 2-10. By virtue of reasons analogous to those presented above, the rejection of claims 2-10 under 35 U.S.C. § 102 has been overcome.

**IC. Armstrong fails to teach “communicating an identifier from the server partition to the client partition”**

Additionally, *Armstrong* does not anticipate claim 1, because, contrary to the Examiner’s assertion, *Armstrong* does not teach the claim 1 feature of “communicating an identifier from the server partition to the client partition.” In support of the identified feature, the Examiner cites the following portion of *Armstrong*:

A shared resource, often referred to as a "hypervisor" or partition manager, manages the logical partitions and facilitates the allocation of resources to different logical partitions. As a component of this function, a partition manager maintains separate virtual memory address spaces for the various logical partitions so that the memory utilized by each logical partition is fully independent of the other logical partitions. One or more address translation tables are typically used by a partition manager to map addresses from each virtual address space to different addresses in the physical, or real, address space of the computer. Then, whenever a logical partition attempts to access a particular virtual address, the partition manager translates the virtual address to a real address so that the shared memory can be accessed directly by the logical partition.

*Armstrong*, col. 1, ll. 53-60.

*Armstrong* states, and the Examiner acknowledges, that the partition manager manages the various logical partitions. *Armstrong* specifically states that whenever a logical partition attempts to access a particular virtual address, the partition manager translates the virtual address to a real address so that the shared memory can be accessed directly by the logical partition. However, nowhere does *Armstrong* state that an identifier is communicated from the server partition to the client partition. *Armstrong* states that only the partition manager provides communication to and from the various logical partitions.

Because *Armstrong* does not teach this feature of claim 1, *Armstrong* does not anticipate claim 1 under 35 U.S.C. § 102. Withdrawal of the rejection is therefore respectfully requested.

Remaining claims 2-10 depend from claim 1. Therefore, the arguments presented above with respect to the patentability of claim 1 over *Armstrong* also apply to claims 2-10. Therefore, by virtue of reasons analogous to those presented above, the rejection of claims 2-10 under 35 U.S.C. § 102 has been overcome.

**ID. Armstrong fails to teach “mapping the logical resource into a logical address space of the client partition, wherein the mapping is performed by the client partition.”**

Additionally, *Armstrong* does not anticipate claim 1, because, contrary to the Examiner’s assertion, *Armstrong* does not teach the claim 1 feature of “mapping the logical resource into a logical

address space of the client partition, *wherein the mapping is performed by the client partition.*” In support of the identified feature, the Examiner cites the following portion of *Armstrong*:

A shared resource, often referred to as a "hypervisor" or partition manager, manages the logical partitions and facilitates the allocation of resources to different logical partitions. As a component of this function, a partition manager maintains separate virtual memory address spaces for the various logical partitions so that the memory utilized by each logical partition is fully independent of the other logical partitions. One or more address translation tables are typically used by a partition manager to map addresses from each virtual address space to different addresses in the physical, or real, address space of the computer. Then, whenever a logical partition attempts to access a particular virtual address, the partition manager translates the virtual address to a real address so that the shared memory can be accessed directly by the logical partition.

*Armstrong*, col. 1, ll. 53-60.

*Armstrong* states, and the Examiner acknowledges, that the partition manager manages the various logical partitions. *Armstrong* specifically states that whenever a logical partition attempts to access a particular virtual address, the partition manager translates the virtual address to a real address so that the shared memory can be accessed directly by the logical partition. However, nowhere does *Armstrong* state that an identifier is communicated from the server partition to the client partition. *Armstrong* states that only the partition manager provides communication to and from the various logical partitions.

Because *Armstrong* does not teach this feature of claim 1, *Armstrong* does not anticipate claim 1 under 35 U.S.C. § 102. Withdrawal of the rejection is therefore respectfully requested.

Remaining claims 2-10 depend from claim 1. Therefore, the arguments presented above with respect to the patentability of claim 1 over *Armstrong* also apply to claims 2-10. Therefore, by virtue of reasons analogous to those presented above, the rejection of claims 2-10 under 35 U.S.C. § 102 has been overcome.

## **II. New Claim 22.**

Applicants have added new claim 22. Support for claim 22 is found on page 20, paragraph 2 of the specification. Claim 22 depends from claim 1. Therefore, the arguments presented above with respect to the patentability of claim 1 over *Armstrong* also apply to claim 22.

Additionally, claim 22 recites additional features, not found in *Armstrong*. *Armstrong* does not teach that a logical resource owned by a logical partition (i.e., the server partition of claim 1) can be allocated from a different first logical partition (first logical partition) to a different second logical

partition (server partition). Because *Armstrong* does not teach this feature of claim 22, *Armstrong* does not anticipate claim 22.

### **III. Conclusion**

It is respectfully urged that the subject application is patentable over *Armstrong* and is now in condition for allowance.

The Examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the Examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

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Respectfully submitted,

/Brandon G. Williams/

Brandon G. Williams  
Reg. No. 48,844  
Yee & Associates, P.C.  
P.O. Box 802333  
Dallas, TX 75380  
(972) 385-8777  
Attorney for Applicants